

**Amendments to the Claims:**

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1-7. (Canceled)

8. (Currently Amended) ~~Microfluidic~~ A microfluidic device comprising at least one microchannel designed to contain at least one liquid and at least one fluid non-miscible with the liquid and means for stabilizing the interface between the liquid and the fluid, said microchannel being bounded by a bottom wall, side walls and a top wall, wherein the means for stabilizing comprises at least one electrode arranged on only one part of a first wall of the microchannel, over the entire length thereof, and at least one counter-electrode arranged over the entire length of the microchannel, on ~~at least one part~~ the whole of a second wall arranged facing the electrode,

wherein the microchannel includes at least two zones, respectively designed to contain the at least one liquid and the at least one fluid non-miscible with the liquid, at least one of the two zones is formed by a space corresponding to the width of the at least one electrode arranged on only one part of the first wall.

9. (Cancelled)

10. (Currently Amended) ~~Microfluidic~~ The microfluidic device according to claim 8, wherein the electrode and counter-electrode are respectively arranged on the bottom and top wall.

11. (Currently Amended) ~~Microfluidic~~ The microfluidic device according to claim 8, wherein the electrode and counter-electrode are respectively arranged on the side walls.

12. (Currently Amended) ~~Microfluidic~~ The microfluidic device according to claim 8, wherein the fluid or liquid being electrically conducting, the microfluidic device

comprises insulating means arranged between the electrode or counter-electrode and said fluid or said liquid.

13. (Currently Amended) ~~Microfluidic~~ The microfluidic device according to claim 8, wherein the fluid flows in the microchannel in an opposite direction to that of the liquid.

14. (Currently Amended) ~~Microfluidic~~ The microfluidic device according to claim 8, wherein the microchannel comprises, at least at one end, two end microchannels designed for the fluid and the liquid to respectively flow therethrough.

15. (New) A microfluidic device comprising at least one microchannel designed to contain at least one liquid and at least one fluid non-miscible with the liquid and means for stabilizing the interface between the liquid and the fluid, said microchannel being bounded by a bottom wall, side walls and a top wall, wherein the means for stabilizing comprises at least one electrode arranged on only one part of a first wall of the microchannel, over the entire length thereof, and at least one counter-electrode arranged over the entire length of the microchannel, on at least one part of a second wall arranged facing the electrode,

wherein the microchannel includes at least two zones, respectively designed to contain the at least one liquid and the at least one fluid non-miscible with the liquid, at least one of the two zones is formed by a space corresponding to the width of the at least one electrode arranged on only one part of the first wall, the fluid or liquid being electrically conducting, the microfluidic device comprises insulating means arranged between the electrode or counter-electrode and said fluid or said liquid.

16. (New) The microfluidic device according to claim 15, wherein the electrode and counter-electrode are respectively arranged on the bottom and top wall.

17. (New) The microfluidic device according to claim 15, wherein the electrode and counter-electrode are respectively arranged on the side walls.

18. (New) The microfluidic device according to claim 15, wherein the fluid flows in the microchannel in an opposite direction to that of the liquid.

19. (New) A microfluidic device comprising at least one microchannel designed to contain at least one liquid and at least one fluid non-miscible with the liquid and means for stabilizing the interface between the liquid and the fluid, said microchannel being bounded by a bottom wall, side walls and a top wall, wherein the means for stabilizing comprises at least one electrode arranged on only one part of a first wall of the microchannel, over the entire length thereof, and at least one counter-electrode arranged over the entire length of the microchannel, on at least one part of a second wall arranged facing the electrode,

wherein the microchannel includes at least two zones, respectively designed to contain the at least one liquid and the at least one fluid non-miscible with the liquid, at least one of the two zones is formed by a space corresponding to the width of the at least one electrode arranged on only one part of the first wall, the microchannel comprises, at least at one end, two end microchannels designed for the fluid and the liquid to respectively flow therethrough.

20. (New) The microfluidic device according to claim 19, wherein the electrode and counter-electrode are respectively arranged on the bottom and top wall.

21. (New) The microfluidic device according to claim 19, wherein the electrode and counter-electrode are respectively arranged on the side walls.

22. (New) The microfluidic device according to claim 19, wherein the fluid flows in the microchannel in an opposite direction to that of the liquid.